I watched as Spot crossed the road, his sensors warning him of oncoming traffic. Of course, a real dog doesn't have sensors, but robot dogs like Spot do. Spot can dig holes and play fetch, like any dog. But he can also check oil rig gauges. Spot was the first robot that piqued my interest in robotics–and what a future shared with robots might look like.

As time went by, my interest in robotics and the technology industry grew. I learned new coding languages, created my own robots, and used C to program my robots to perform simple tasks: turning, avoiding obstacles, dancing. I spent endless hours watching various technical videos on high-mobility robots and human-robot interaction.

The more I've explored, the further I've fallen into the rabbit hole of artificial intelligence. Every development in the field could change the world, and I want to be a part of it. I want to learn methods for countering the many risks that come with AI: how can we prevent AI from behaving outside of the code's parameters? How will robots impact the medical industry? What would it be like to interact with and work alongside humanoid robots? I want to manipulate non-sentient creations to create a more technologically advanced--and safer--world for everybody.

My interest in understanding human-machine interaction led me to explore different domains in which I could expand my interest and knowledge. And in the process, I learned more about myself than I ever could have imagined. I learned that I wanted to start at the root, understand everything about robots at its root. Originally, I thought that would mean the hardware portion or the beginning programs. However, I learned that there is so much more to them. Chipmaking. Semiconductors. That's where the advanced robot truly starts.

Traditionally, robots are powered by computer programming and basic hardware that only function in well-controlled environments. They are often powered by batteries or other sources that limit the lifespan of the robot. However, with technology constantly improving and the need for longer lifespans, semiconductors bring the next technological advantage. And I want to be a part of that. I want to be a part of the change that takes the world by storm.

As a student studying computer engineering, I have studied various subjects pertaining to semiconductors. I've developed a solid foundation in computer programming, which is essential to designing and developing software and hardware systems. I am currently self-learning advanced topics such as data structures and algorithms and electromagnetic waves and radiation, which are crucial to optimizing

system performance in both hardware and software. My interest has spanned over to research regarding the quantum-inspired Ising chip and achieving 95% accuracy for randomly generated combinatorial optimization problems.

I want to apply the knowledge that I gain to make the world a safer place by: developing new technology using semiconductors for several industries and minimizing risks that come with human error. A computer engineering major would equip me with the knowledge and research experience to make a greater impact on my community and help me gain insight into my own research interests and answer the questions that I have about technology's influence on society.